LUKHDHIRJI ENGINEERING COLLEGE

MORBI

INFORMATION TECHNOLOGY DEPARTMENT

CERTIFICATE

This is to certify that following students of Information Technology Department have satisfactorily completed the micro project work entitled “

. ” assigned as partial fulfillment of Course

. Code **4361603** during 6th Semester of academic year **2025-26** Term **Even**

Student Enrollment Number Student Name

Course Faculty,

V.B.SANGHAVI
Lecturer,IT Department

Head of Department,

Mr. M. P. Parmar

IT Department

INDEX

ACKNOWLEDGEMENT

We would like to thank our course faculty **V.B.SANGHAVI** for giving his almost attention and guidance for our project. We are especially thankful to head of department **PROF. M. P. PARMAR** for his warm response toward us.

We are also thankful to all faculties and our colleagues of the information technology department who helped us for the project and also provide us useful information to complete 6^{th} semester micro project.

ABSTRACT

The **Electronic Voting System using Blockchain** is designed to overcome these limitations by using the core principles of blockchain such as decentralization, immutability, and transparency. In this system, each vote is recorded as a block in the blockchain ledger. Once a vote is stored, it cannot be altered or deleted, which ensures the integrity of the voting process. Blockchain also helps in preventing duplicate voting by enforcing the rule of one voter one vote.

This project is developed using **HTML for the user interface** and **Python for backend processing**. The blockchain mechanism is implemented at an educational level to demonstrate how votes can be securely stored and verified. The system also provides real-time visibility of the blockchain ledger, which increases transparency and trust.

The objective of this micro project is to study and implement a secure electronic voting system using blockchain technology and to understand its practical applications in modern digital systems. This project is developed purely for academic and educational purposes.

INTRODUCTION

Voting is one of the most important processes in a democratic system, as it allows citizens to select their representatives and participate in decision-making. Traditionally, voting has been carried out using paper-based methods, which are time-consuming, costly, and prone to human errors. To overcome these issues, electronic voting systems were introduced. However, many existing electronic voting systems still face challenges related to security, transparency, and centralized control.

With the advancement of digital technologies, there is a strong need for a secure and reliable voting system. Blockchain technology provides a promising solution to these challenges. Blockchain is a distributed ledger technology that stores data in the form of blocks connected through cryptographic hashes. Once data is recorded on the blockchain, it becomes immutable, which means it cannot be modified or deleted.

In this project, an **Electronic Voting System using Blockchain** is developed to demonstrate how blockchain technology can be used to ensure secure, transparent, and tamper-proof voting. Each vote is recorded as a block in the blockchain, ensuring integrity and trust in the voting process. This system is developed for academic purposes to understand the practical application of blockchain in electronic voting.

1.1 Need for Secure Electronic Voting System

Existing voting systems, both manual and electronic, suffer from various limitations such as vote tampering, duplicate voting, lack of transparency, and dependency on centralized authorities. Centralized systems create a single point of failure, where a security breach can compromise the entire election process.

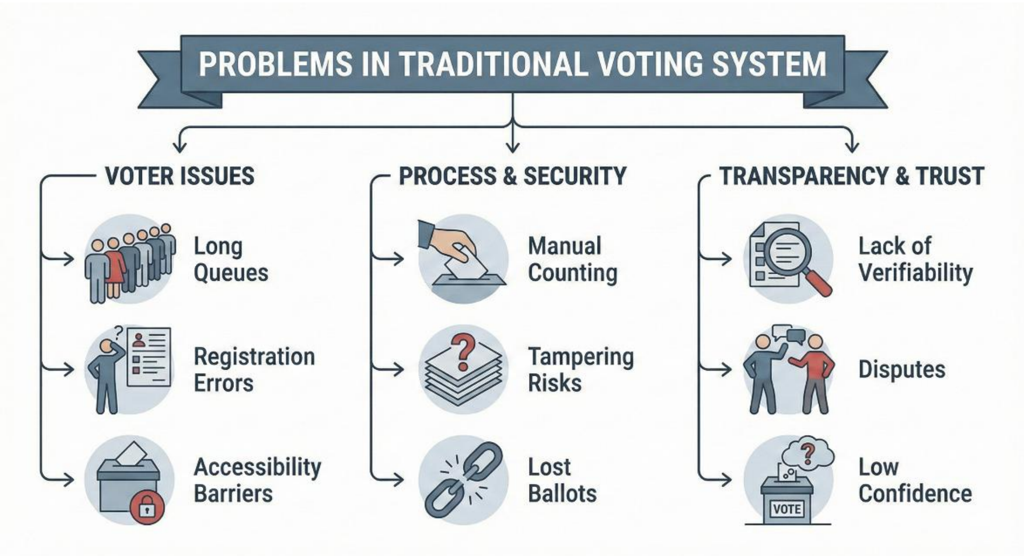

Figure 1.1: ***Issues and limitations of traditional voting systems such as lack of security, transparency, and centralized control.***

A secure electronic voting system is required to ensure that each voter can cast only one vote and that the vote cannot be altered once it is recorded. Blockchain-based voting systems address these issues by providing decentralization, data integrity, and transparency. This increases voter confidence and reduces the risk of fraud.

1.2 Role of Blockchain in Electronic Voting

Blockchain plays a crucial role in improving the security and transparency of electronic voting systems. In a blockchain-based voting system, each vote is treated as a transaction and stored inside a block. Each block contains a cryptographic hash of the previous block, forming a secure chain.

This structure ensures that once a vote is added to the blockchain, it cannot be modified without changing all subsequent blocks, which is practically impossible. Blockchain also enables transparency, as voting records can be verified without revealing voter identity. In this project, blockchain is implemented at an educational level to demonstrate these concepts clearly.

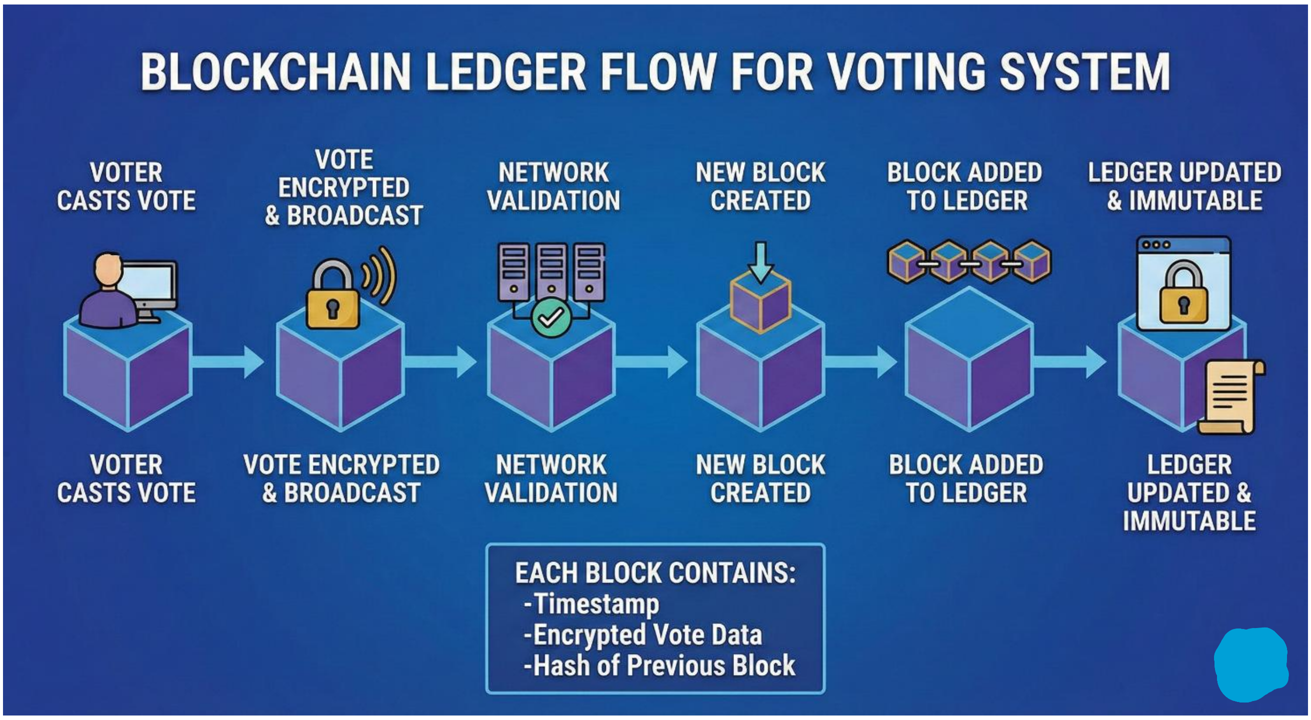

Figure 1.2: *Flow of blockchain-based electronic voting system showing secure and immutable vote recording.*

PROBLEM DEFINITION

Despite advancements in technology, many voting systems still face serious challenges related to security, transparency, and trust. Traditional voting methods, including paper-based and basic electronic systems, are vulnerable to human errors, vote tampering, and manipulation. These issues can significantly affect the credibility of election results.

Centralized electronic voting systems rely on a single server or authority to store and manage votes. This creates a single point of failure, where any technical fault or cyber-attack can compromise the entire voting process. Additionally, voters do not have the ability to independently verify whether their votes have been recorded correctly, which reduces trust in the system.

Another major concern is duplicate and unauthorized voting. Existing systems often struggle to enforce strict one-voter-one-vote rules, especially in large-scale elections. These limitations highlight the need for a secure, transparent, and tamper-proof voting mechanism.

2.1 Drawbacks of Traditional Voting Systems

Traditional voting systems suffer from several drawbacks such as high operational cost, slow result processing, and dependency on manual procedures. Paper ballots can be damaged, lost, or manipulated, leading to inaccurate results. Even electronic systems without strong security measures are vulnerable to hacking and data breaches.

Moreover, centralized control over voting data makes the system less transparent and more susceptible to misuse. Voters are required to trust the authority managing the system, which can reduce confidence in the fairness of elections.

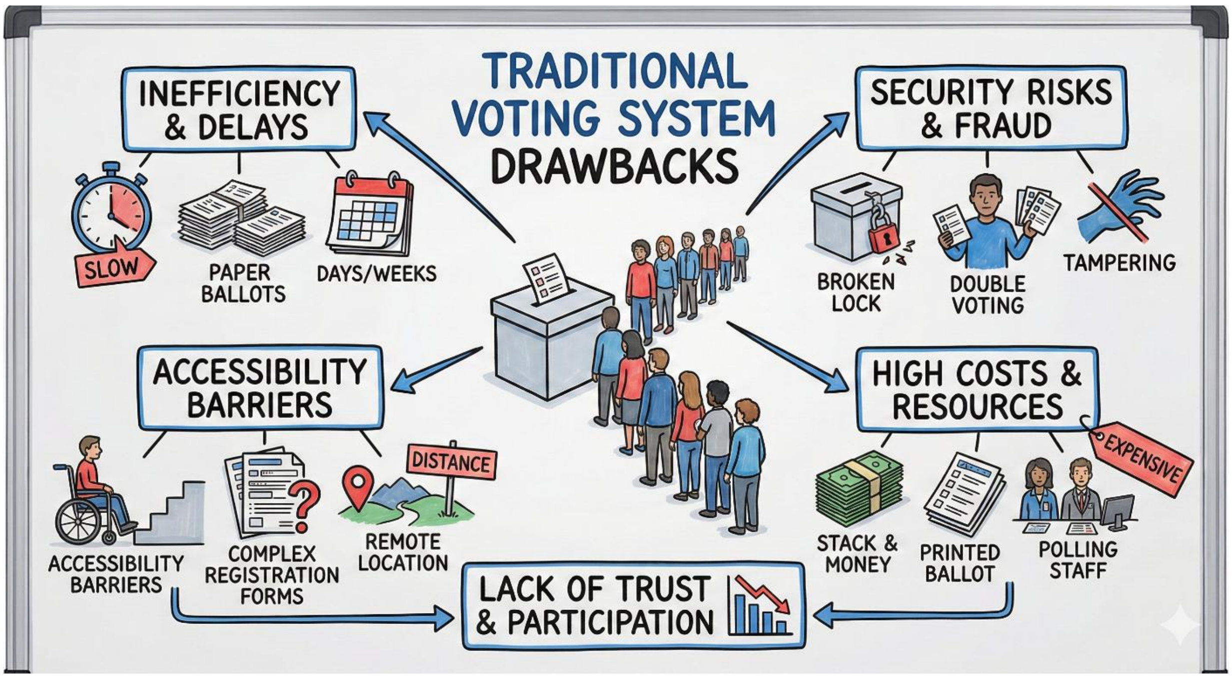

Figure 2.1:*Limitations of traditional and centralized voting systems.*

2.2 Need for Blockchain-Based Voting System

Blockchain technology provides an effective solution to the problems faced by traditional voting systems. Blockchain ensures decentralization, where voting data is distributed across multiple nodes instead of being stored in a single location. This eliminates the risk of a single point of failure.

Each vote recorded on the blockchain is immutable and cannot be altered once added. Cryptographic hashing and block linking ensure data integrity and security. By implementing blockchain-based voting, the system can enforce one-voter-one-vote rules and provide transparency without compromising voter privacy.

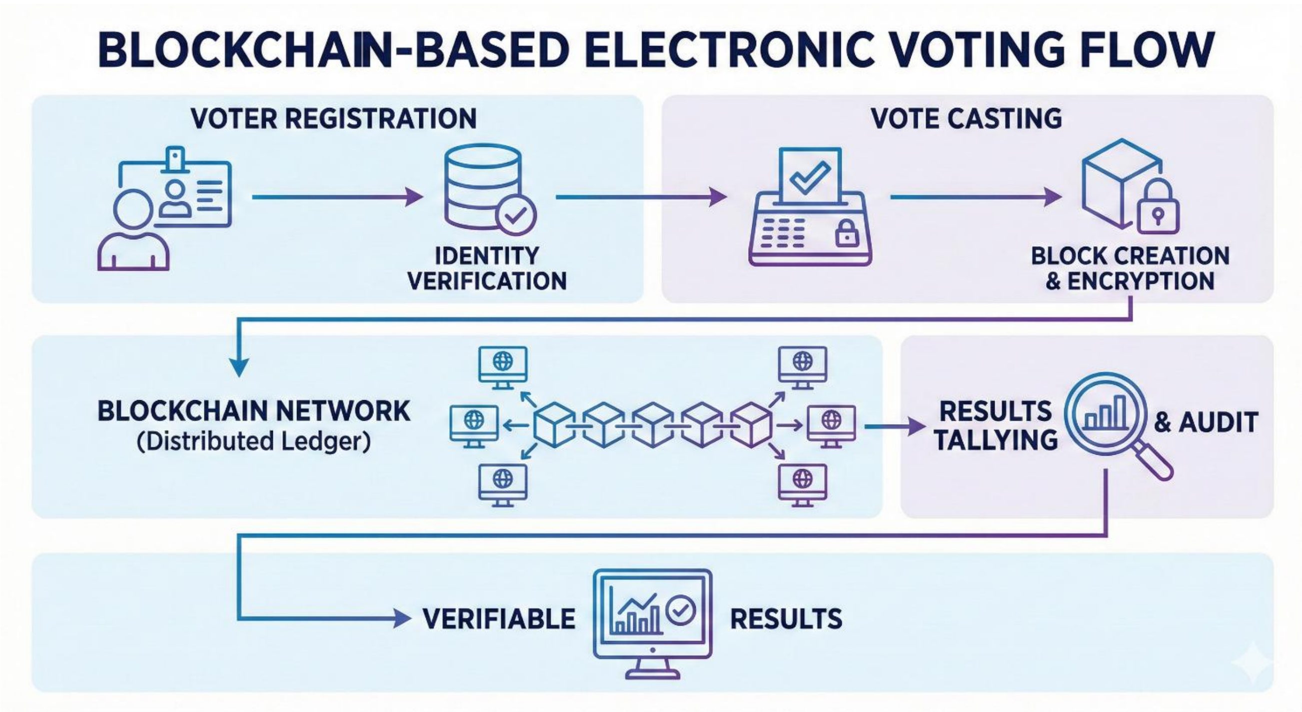

Figure 2.2: *Blockchain-based electronic voting system ensuring secure and tamper-proof voting.*

OBJECTIVES OF THE PROJECT

The objectives of this project are defined to understand and implement a secure electronic voting system using blockchain technology. These objectives focus on improving transparency, security, and trust in the voting process through the practical application of blockchain concepts.

3.1 Primary Objectives

The primary objectives of this project are as follows:

- To design and develop an electronic voting system using blockchain technology.
- To ensure secure and tamper-proof storage of votes using blockchain principles.
- To prevent duplicate and unauthorized voting by enforcing one-voter-one-vote rules.
- To provide transparency in the voting process while maintaining voter privacy.
- To demonstrate the practical application of blockchain in electronic voting systems.

3.2 Secondary Objectives

The secondary objectives of the project include:

- To develop a user-friendly web-based voting interface.
- To record votes as immutable blocks in a blockchain ledger.
- To display real-time blockchain activity for verification purposes.
- To deploy the voting system on a web platform for demonstration.
- To understand the integration of frontend and backend technologies.

3.3 Learning Outcomes

After successful completion of this project, the student will be able to:

- Explain the working of blockchain technology in voting systems.
- Develop a basic blockchain-based application using Python.
- Integrate a web-based user interface with backend logic.
- Demonstrate secure and transparent electronic voting using blockchain.
- Apply blockchain concepts to solve real-world problems.

LITERATURE REVIEW

Electronic voting systems and blockchain technology have been widely studied by researchers and organizations in recent years. Various studies highlight the limitations of traditional voting systems and emphasize the need for secure, transparent, and tamper-proof mechanisms. Researchers have explored different approaches to improve election security using cryptography, distributed systems, and blockchain technology.

Several research papers suggest that blockchain can significantly enhance trust in electronic voting by ensuring immutability and transparency. Blockchain eliminates the need for centralized authorities and provides a distributed ledger where votes are permanently recorded. These studies also focus on maintaining voter anonymity while allowing vote verification.

4.1 Review of Existing Electronic Voting Systems

Existing electronic voting systems mainly rely on centralized databases to store and manage votes. While these systems reduce manual effort and speed up vote counting, they are vulnerable to cyber-attacks, insider threats, and system failures. Researchers have pointed out that centralized systems create a single point of failure, which can compromise the entire election process.

Some electronic voting systems use encryption techniques to secure votes, but they still lack transparency and public verifiability. Due to these limitations, public trust in such systems remains low.

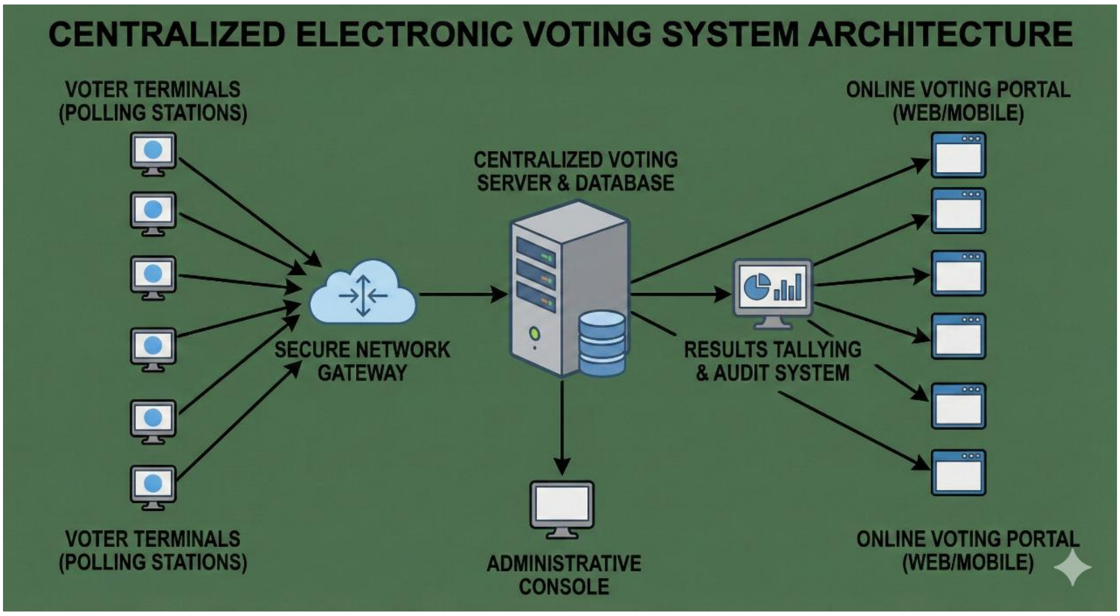

Figure 4.1:*Architecture of a centralized electronic voting system and its limitations.*

4.2 Review of Blockchain-Based Voting Systems

Blockchain-based voting systems have been proposed as an alternative to traditional electronic voting systems. Researchers suggest that blockchain ensures data integrity through cryptographic hashing and decentralized storage. Each vote is recorded as a block, making it impossible to alter or delete votes once added.

Studies also highlight that blockchain-based systems can enforce one-voter-one-vote rules and provide transparency without revealing voter identity. Although most blockchain voting systems are still in experimental stages, they show great potential for secure and reliable electronic voting.

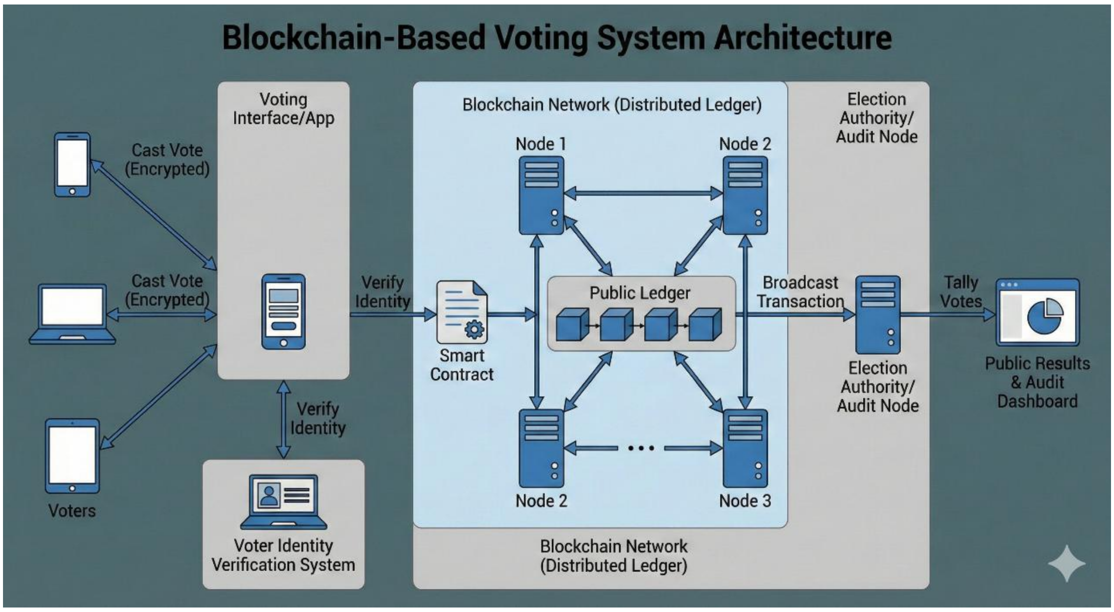

Figure 4.2:*Blockchain-based electronic voting system showing decentralized and secure vote storage.*

4.3 Research Gap

From the literature review, it is observed that many existing systems either focus on security or usability but fail to balance both. There is a need for a simple, user-friendly, and secure blockchain-based voting system suitable for academic and educational purposes. This project aims to address this gap by implementing a basic yet effective electronic voting system using blockchain technology.

SYSTEM ARCHITECTURE

The system architecture of the **Electronic Voting System using Blockchain** describes the overall structure of the system and how different components interact with each other. This project follows a simple client–server architecture integrated with blockchain logic to ensure secure and transparent voting.

The system consists of three major components: the **User Interface**, the **Backend Processing Unit**, and the **Blockchain Ledger**. Each component plays a specific role in the voting process and works together to ensure data integrity and security.

5.1 User Interface Layer

The User Interface (UI) is developed using HTML and CSS. It provides an interactive and user-friendly platform for voters to participate in the voting process. Through the UI, users can enter their voter ID, select a candidate, and submit their vote.

The UI also displays confirmation messages after successful voting and restricts duplicate voting attempts. The design focuses on simplicity and clarity so that voters can easily understand and use the system.

5.2 Backend Processing Layer

The backend of the system is developed using Python. It handles voter validation, vote submission, and blockchain block creation. When a voter submits a vote through the UI, the backend processes the request, verifies whether the voter has already voted, and records the vote securely.

The backend ensures that each voter can vote only once and maintains communication between the UI and the blockchain ledger. All security checks and logic implementation are handled at this layer.

5.3 Blockchain Ledger Layer

The blockchain layer is responsible for securely storing votes in the form of blocks. Each vote is treated as a block containing voter information (in hashed form), candidate details, timestamp, and cryptographic hash values. Each block is linked to the previous block, forming a secure blockchain.

Once a vote is recorded in the blockchain, it cannot be modified or deleted. This ensures immutability and transparency in the voting process.

TECHNOLOGY USED

The **Electronic Voting System using Blockchain** project is developed using modern web and backend technologies to ensure security, transparency, and reliability. Each technology is selected based on its role in building a secure and efficient voting system.

8.1 HTML (HyperText Markup Language)

HTML is used to design the basic structure of the web-based user interface. It helps in creating forms, buttons, headings, and input fields required for voter interaction. The voter login page and voting interface are created using HTML elements.

HTML ensures that the application is accessible through any modern web browser without the need for additional software.

8.2 CSS (Cascading Style Sheets)

CSS is used to enhance the visual appearance of the user interface. It provides styling features such as layout design, color themes, fonts, buttons, and animations. In this project, CSS is used to create a modern dark-themed interface that improves user experience and readability.

CSS helps make the application attractive, responsive, and professional.

8.3 Python

Python is used as the backend programming language for this project. It handles core functionalities such as voter authentication, vote validation, blockchain block creation, and prevention of duplicate voting.

Python is chosen because of its simplicity, strong library support, and suitability for implementing blockchain logic efficiently.

8.4 Flask Framework

Flask is a lightweight Python web framework used to connect the frontend with the backend. It manages routing, request handling, and server-side processing. Flask allows the application to run locally as well as on cloud platforms.

It also helps in integrating HTML templates with backend logic smoothly.

8.5 Blockchain Technology

Blockchain is the core technology used in this project. Each vote is stored as a block containing voter details (in hashed form), candidate information, timestamp, and cryptographic hash. Each block is linked to the previous block, ensuring immutability and transparency.

Once recorded, votes cannot be altered or deleted, making the system tamper-proof.

8.6 SHA-256 Hashing Algorithm

The SHA-256 hashing algorithm is used to generate secure hash values for each block in the blockchain. Hashing ensures data integrity and protects sensitive voter information.

Any modification in block data changes the hash value, making unauthorized changes easily detectable.

8.7 GitHub

GitHub is used for version control and project code management. The complete source code of the project is uploaded to GitHub, making it easy to track changes, manage versions, and showcase the project.
URL "https://github.com/tushar-br/FOB-Electronic-Voting-System-using-Blockchain--Tushar-Rathod-

8.8 Vercel (Cloud Deployment)

Vercel is used to deploy the frontend of the project online. It allows the voting system UI to be accessed from anywhere using a web browser. Deployment on Vercel helps demonstrate real-world usability of the system.

URL "https://fob-electronic-voting-system-using.vercel.app/"

MODULE DESCRIPTION

9.1 Voter Authentication Module

This module is responsible for verifying the voter before allowing access to the voting system. Each voter must enter a unique voter ID to proceed.

Once the voter ID is validated, the system checks whether the voter has already cast a vote. If the voter has already voted, access is denied to prevent duplicate voting.

Functions:

- Accept voter ID input like "1001"
- Validate voter credentials
- Prevent multiple voting using the same ID

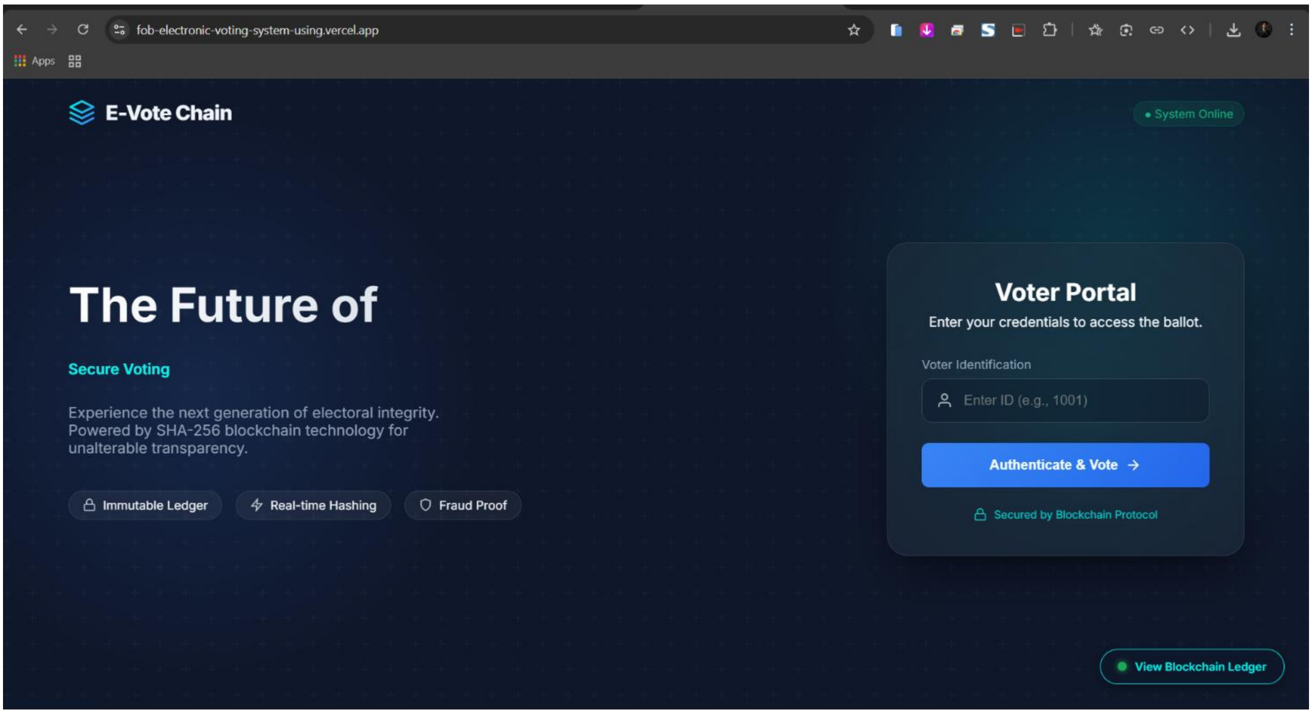

Figure 9.1: Voter Authentication Interface

9.2 Voting Module

The Voting Module allows authenticated voters to select their preferred candidate. The voter can view the list of candidates and submit their vote securely.

After submission, the vote is sent to the blockchain module for permanent storage. Once submitted, the voter cannot vote again.

Functions:

- Display candidate list
- Accept vote selection
- Submit vote securely

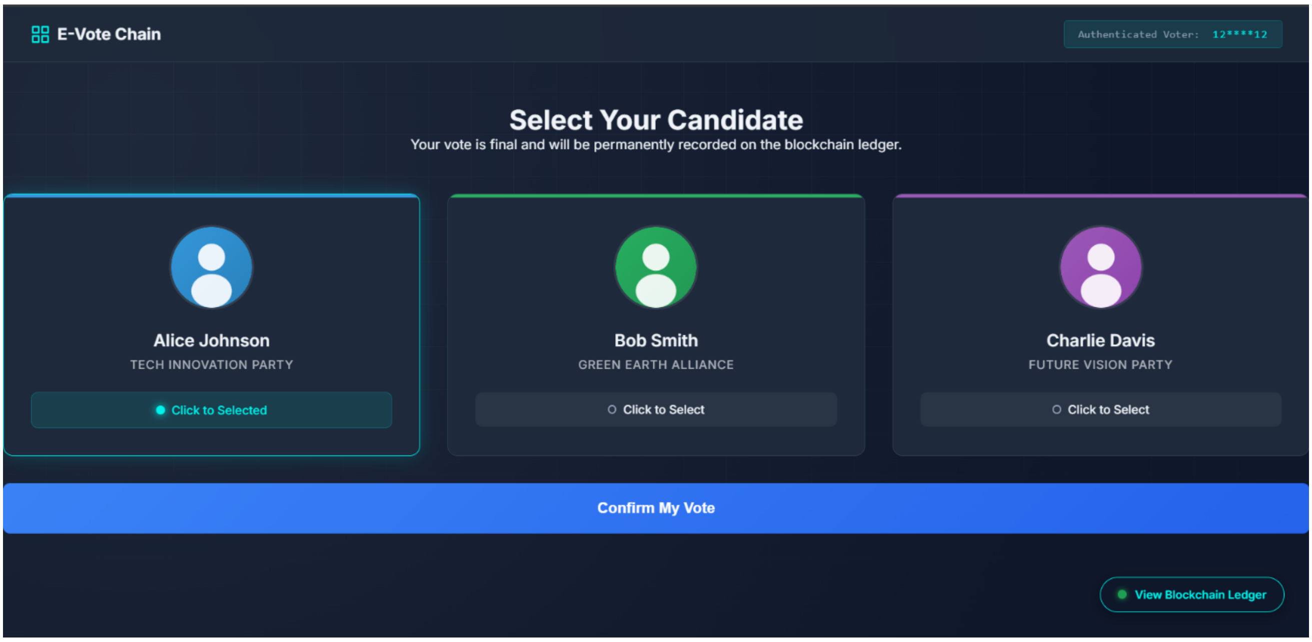

Figure 9.2: Voting Interface

9.3 Blockchain Processing Module

This module handles the creation and management of blockchain blocks. Each vote is converted into a block containing voter hash, candidate name, timestamp, previous hash, and current hash.

The block is then added to the blockchain, ensuring data immutability and transparency.

Functions:

- Generate hash using SHA-256
- Link blocks securely
- Store vote permanently

```
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /chain HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "POST /login HTTP/1.1" 302 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /vote?voter_id=10 HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /static/style.css HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /static/terminal.js HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /static/images/avatar_alice.svg HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /static/images/avatar_bob.svg HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /static/images/avatar_charlie.svg HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:24] "GET /chain HTTP/1.1" 200 -

--- Current Blockchain State ---
{
    "index": 0,
    "timestamp": 1770561321.6863198,
    "voter_id": "GENESIS",
    "candidate": "System Initialization",
    "previous_hash": "0",
    "hash": "f02ac9e8f8067e7dc7114aa0fc4766daedac76c00b3548d674201763f76f08c8"
}
{
    "index": 1,
    "timestamp": 1770561326.6349735,
    "voter_id": "4a44dc15364204a80fe80e9039455cc1608281820fe2b24f1e5233ade6af1dd5",
    "candidate": "Alice Johnson",
    "previous_hash": "f02ac9e8f8067e7dc7114aa0fc4766daedac76c00b3548d674201763f76f08c8",
    "hash": "7d58680f9c0c3c8b30fad7445b2de5e16411e54df48c9f8a01959edd2e662ecb"
}
--------------------------------

127.0.0.1 - - [08/Feb/2026 20:05:26] "POST /submit_vote HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:26] "GET /static/style.css HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:26] "GET /static/terminal.js HTTP/1.1" 304 -
127.0.0.1 - - [08/Feb/2026 20:05:26] "GET /chain HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:28] "GET /chain HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:30] "GET /chain HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:32] "GET /chain HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 20:05:34] "GET /chain HTTP/1.1" 200 -
```

Figure 9.3: Blockchain Block Generation Output

9.4 Result Display Module

This module displays confirmation messages after successful vote submission. It informs the voter that the vote has been recorded securely on the blockchain.

The module also provides access to view blockchain data for transparency purposes.

Functions:

- Display vote confirmation
- Show block index and status
- Provide blockchain ledger access

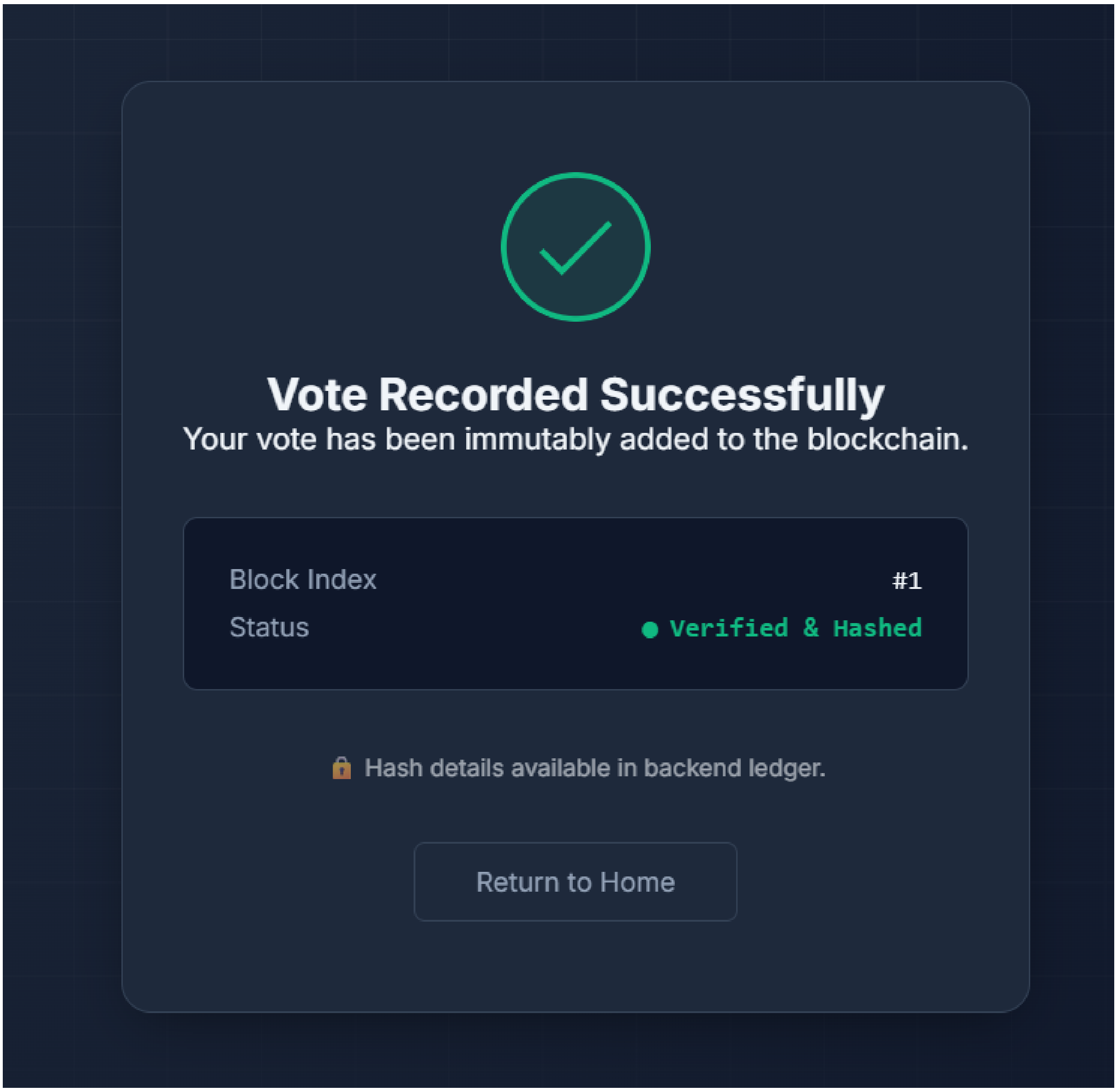

Figure 9.4: Vote Confirmation Screen

IMPLEMENTATION DETAILS

The **Electronic Voting System using Blockchain** is implemented using a combination of front-end and back-end technologies to ensure security, transparency, and ease of use. The system follows a step-by-step workflow from voter authentication to vote storage on the blockchain.

10.1 User Interface Implementation

The front-end of the system is developed using **HTML and CSS**. A modern dark-themed interface is designed to provide a professional and secure look.

The UI includes:

- Voter Login Page
- Voting Interface
- Vote Confirmation Page
- Blockchain Ledger Access Button

The user interface communicates with the backend server through HTTP requests.

10.2 Backend Implementation using Python

The backend of the system is developed using **Python with Flask framework**. Flask handles routing, form submission, and server-side logic.

Backend responsibilities include:

- Handling voter login requests
- Processing vote submissions
- Managing blockchain operations
- Preventing duplicate voting

--- Current Blockchain State ---


```
{
  "index": 0,
  "timestamp": 1770561321.6863198,
  "voter_id": "GENESIS",
  "candidate": "System Initialization",
  "previous_hash": "0",
  "hash": "f02ac9e8f8067e7dc7114aa0fc4766daedac76c00b3548d674201763f76f08c8"
}
{
  "index": 1,
  "timestamp": 1770561326.6349735,
  "voter_id": "4a44dc15364204a80fe80e9039455cc1608281820fe2b24f1e5233ade6af1dd5",
  "candidate": "Alice Johnson",
  "previous_hash":
"f02ac9e8f8067e7dc7114aa0fc4766daedac76c00b3548d674201763f76f08c8",
  "hash": "7d58680f9c0c3c8b30fad7445b2de5e16411e54df48c9f8a01959edd2e662ecb"
```

}

10.3 Blockchain Logic Implementation

The blockchain logic is implemented using Python. Each vote is stored as a block containing:

- Block Index
- Timestamp
- Voter Hash
- Candidate Name
- Previous Block Hash
- Current Block Hash

SHA-256 hashing algorithm is used to generate secure and tamper-proof hashes.

10.4 Vote Submission Workflow

The complete voting workflow is as follows:

1. Voter enters a valid voter ID
2. System verifies voter eligibility
3. Voting interface is displayed
4. Voter selects candidate
5. Vote is converted into a blockchain block
6. Block is added to the blockchain
7. Vote confirmation is displayed

This workflow ensures vote integrity and transparency.

10.5 Deployment and Execution

The project is deployed using **Vercel** for live demonstration. The backend runs locally or on a server, while the frontend is accessible through a public URL.

- **Live Website URL:** https://fob-electronic-voting-system-using.vercel.app/
- **GitHub Repository URL:** https://github.com/tushar-br/FOB-Electronic-Voting-System-using-Blockchain--Tushar-Rathod-

SECURITY FEATURES

11.1 Voter Authentication

Each voter must enter a valid **Voter ID** before accessing the voting panel. The system verifies the voter ID before allowing vote submission.

This ensures:

- Only authorized voters can vote
- Invalid or fake users are blocked

11.2 One Person One Vote Protection

The system prevents multiple votes from the same voter ID. Once a vote is recorded, the voter ID is hashed and stored in the blockchain.

If the same voter ID tries to vote again:

- The system detects duplication
- Vote submission is blocked

This guarantees **one person, one vote**.

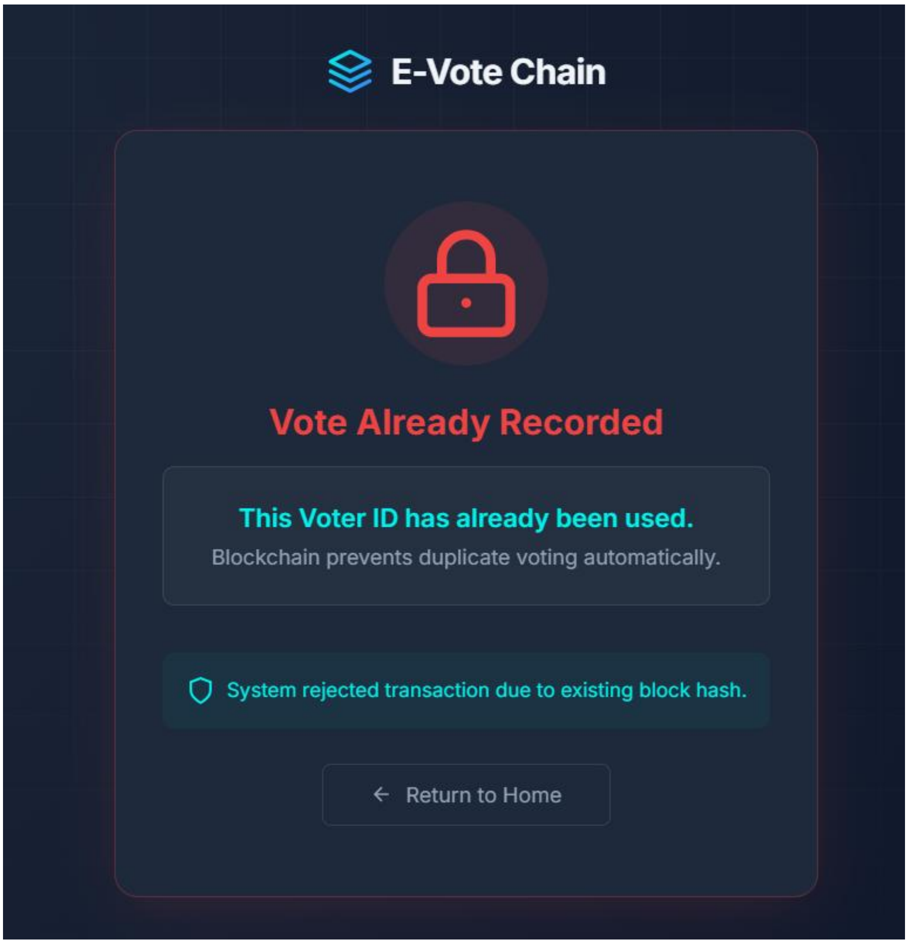

Figure 11.1: Voter Authentication Interface

11.3 Blockchain Immutability

Each vote is stored as a block linked to the previous block using cryptographic hashes. Once added, a block cannot be modified or deleted.

Security benefits:

- Tamper-proof data
- Transparent vote storage
- Permanent audit trail

11.3 Blockchain Immutability

Each vote is stored as a block linked to the previous block using cryptographic hashes. Once added, a block cannot be modified or deleted.

Security benefits:

- Tamper-proof data
- Transparent vote storage
- Permanent audit trail

11.4 SHA-256 Hashing Algorithm

The system uses **SHA-256 hashing** to generate secure block hashes. Any small change in vote data changes the hash completely.

This ensures:

- Data integrity
- Detection of unauthorized modifications

ADVANTAGES

The **Electronic Voting System using Blockchain** offers several advantages over traditional and centralized electronic voting systems. By integrating blockchain technology, the system ensures higher security, transparency, and reliability in the voting process.

12.1 Enhanced Security

Blockchain technology provides strong security by using cryptographic hashing and block linking. Once a vote is recorded, it cannot be altered or deleted. This prevents vote tampering and unauthorized modifications.

12.2 Transparency and Trust

All votes are stored in a transparent blockchain ledger. Although voter identity is protected, the voting process remains verifiable. This transparency increases public trust in the election process.

12.3 Prevention of Duplicate Voting

The system enforces the rule of **one voter, one vote**. Once a voter casts a vote, the system blocks any further attempts using the same voter ID. This ensures fair and accurate voting results.

12.4 Tamper-Proof Data Storage

Blockchain ensures immutability of data. Any attempt to change vote data will alter hash values and break the blockchain structure, making tampering easily detectable.

12.5 Cost and Time Efficiency

Electronic voting reduces the need for physical infrastructure, paper ballots, and manual vote counting. This saves time and reduces operational costs.

12.6 Easy Accessibility

Since the system is web-based, voters can access the voting platform easily through a browser. Deployment on platforms like Vercel makes the system accessible from anywhere.

LIMITATIONS

Although the **Electronic Voting System using Blockchain** provides improved security and transparency, it also has certain limitations. These limitations are mainly related to scalability, infrastructure, and practical deployment challenges.

13.1 Scalability Issues

Blockchain-based systems may face scalability problems when the number of voters and votes increases significantly. As each vote is stored as a block, managing a very large blockchain can require more processing time and storage.

13.2 Internet Dependency

The system requires a stable internet connection for voters to access the platform. In areas with limited or unreliable internet connectivity, this may restrict user participation.

13.3 Educational-Level Implementation

This project uses a simulated blockchain for academic purposes. It is not a fully decentralized blockchain network, which limits its use in real-world large-scale elections.

13.4 Technical Knowledge Requirement

Users and administrators need basic technical knowledge to operate and manage the system. Lack of awareness or training may create challenges in adoption.

13.5 Security Risks at Client Side

Although blockchain secures vote storage, vulnerabilities such as malware or phishing attacks on the client device can still pose risks.

CONCLUSION

The **Electronic Voting System using Blockchain** project successfully demonstrates how blockchain technology can be applied to enhance the security, transparency, and reliability of electronic voting systems. Through this project, the limitations of traditional and centralized voting systems are addressed by using a decentralized and tamper-proof blockchain ledger.

The system ensures that each voter can cast only one vote and that once a vote is recorded, it cannot be modified or deleted. By storing votes as blocks linked through cryptographic hashes, the integrity of the voting process is maintained. The use of SHA-256 hashing further strengthens data security and prevents unauthorized changes.

The project also integrates a user-friendly web-based interface, making the voting process simple and accessible. Real-time blockchain output and verification increase transparency and trust in the system. Deployment of the project on a live platform and availability of source code on GitHub demonstrate its practical applicability.

Overall, this project provides valuable hands-on experience with blockchain concepts and their real-world applications. The objectives of the project have been successfully achieved, and the system proves that blockchain can play a significant role in developing secure and trustworthy electronic voting solutions for academic and experimental purposes.

REFERENCES

- **Blockchain Technology Overview**, IBM Documentation.
https://www.ibm.com/blockchain/what-is-blockchain
- **Introduction to Blockchain**, GeeksforGeeks.
https://www.geeksforgeeks.org/blockchain/
- **Electronic Voting System Concepts**, IEEE Research Papers.
- **Flask Official Documentation**, Pallets Projects.
https://flask.palletsprojects.com/
- **Python Programming Language Documentation**.
https://docs.python.org/3/
- **SHA-256 Hash Algorithm**, NIST Cryptographic Standards.
https://nvlpubs.nist.gov/
- **Project Live Website (Vercel Deployment)**.
https://fob-electronic-voting-system-using.vercel.app/
- **Project Source Code Repository (GitHub)**.
https://github.com/tushar-br/FOB-Electronic-Voting-System-using-Blockchain--Tushar-Rathod-